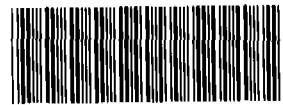


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Rocky Mountain
Remediation Services, L.L.C.
... protecting the environment

INTEROFFICE MEMORANDUM

DATE: September 20, 1995

TO: G. I. Greene, Procurement, Bldg. 080, X8786

FROM: *[Signature]* B. D. Peterman, Sitewide Actions, Bldg. 080, X8659

SUBJECT: ISSUE FINAL STATEMENT OF WORK FOR SUBCONTRACT FOR MTS237441GG3,
INDUSTRIAL AREA OPERABLE UNITS 8, 9, 10, 12, 13, AND 14 - BDP-039-95

Please find the attached Statement of Work (SOW) for the above referenced subcontract. This SOW is being issued as the final work scope required from Jacobs Engineering Group (JEG) under the above referenced subcontract. The attached SOW covers work tasks that were a result of a formal Stop Work Order from the Department of Energy, Rocky Flats Field Office (DOE, RFFO) on March 7, 1995 and on April 11, 1995. JEG was informed of the DOE, RFFO Stop Work and they implemented the specifics of the Stop Work Order for non-field work activities per an Implementation Plan dated May 2, 1995.

On September 14, 1995, Rocky Mountain Remediation Services received the final deliverables for this subcontract from JEG. Therefore, the terms of this contract have been met and all required deliverables received. Because of the Stop Work Order, the period of performance for this subcontract is to be revised to **September 30, 1995**. Please initiate any contract close out tasks that are required.

If you have any questions regarding this issue or require any further information, please contact me at x8659.

dql

cc:

J. Bratton - KH - w/o enclosures
J. E. Law - RMRS - w/o enclosures
A. L. Primrose - RMRS - w/o enclosures
ER Records Center (2)
RMRS Records

22.041.F



ADMIN RECCRD
IA-A-000572

1/15

STATEMENT OF WORK

FINAL WORK SCOPE PER STOP WORK ORDER
ISSUED MAY, 1995

CONTRACT MTS237441GG3

IMPLEMENTATION OF THE
NON-INTRUSIVE INVESTIGATIONS OF THE
PHASE I RFI/RI WORK PLANS FOR
ROCKY FLATS PLANT
OPERABLE UNITS NOS. 8, 9, 10, 12, 13, AND 14
INDUSTRIAL AREA OPERABLE UNITS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO

Prepared by:

Rocky Mountain Remediation Services
Sitewide Actions Group

September, 1995

Approved by:

 9/19/95
Contract Technical Representative

 9/19/95
Onsite RI/FS Team Lead

Reviewed for Classification:

2
**DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE**

Statement of Work

FINAL WORK SCOPE PER STOP WORK ORDER
ISSUED MAY, 1995

CONTRACT MTS237441GG

IMPLEMENTATION OF THE
NON-INTRUSIVE INVESTIGATIONS OF THE
PHASE I RFI/RI WORK PLANS FOR
ROCKY FLATS PLANT
OPERABLE UNITS NOS. 8, 9, 10, 12, 13 AND 14
INDUSTRIAL AREA OPERABLE UNITS

1.0 OBJECTIVE

The objective of this statement of work (SOW) is to execute the final scope of work for the Industrial Area Operable Units (Operable Unit Nos. 8, 9, 10, 12, 13, and 14) that will effectively bring to logical closure the current Industrial Area Operable Unit (IA OU) Project as described in MTS237441GG. This SOW provides for the recommendations from the February 8, 1995 Quality Action Team (QAT) and more specifically the March 7, 1995 stop work order from the Department of Energy Rocky Flats Field Office (DOE/RFFO). The QAT consists of representatives from DOE/RFFO, EPA Region VIII, and the Colorado Department of Public Health and the Environment. The parties agreed to stop work on Interagency Agreement (IAG) milestones pending discussions to reconfigure the IA OUs into a more cost effective and manageable program that will eliminate burdensome administrative requirements and redundancy. In addition, this SOW identifies activities that are deemed critical to continue to allow for a smooth transition for logical closure of ongoing activities. For record keeping purposes preparation of field data summary reports, data compilation, and tabulation, shall continue but no data interpretation or analysis is planned to occur. The following table outlines the deliverables required for each of the IA OUs addressed in this SOW and their expected closure dates based on the time to complete the described work.

OPERABLE UNIT	DESCRIPTION	COMPLETION OF DATA SUMMARY REPORTS
OU 8	700 AREA	SEPTEMBER 14, 1995
OU 9	INTRUSIVE TANK CHARACTERIZATION	OCTOBER 20, 1995 +
OU 10	OTHER OUTSIDE CLOSURES	JANUARY 23, 1995*
OU 12	400/800 AREA	MARCH 19, 1996**
OU 13	100 AREA	JULY 3, 1995
OU 14	RADIOACTIVE SITES	JULY 17, 1995

* The technical aspects of OU 10 are completed and draft Technical Memoranda submitted. However, because of contractual obligations this project will continue to incur minimal costs for General Project Support, as explained in Section 2.1.1 of this Implementation Plan.

- ** The data summary report of OU 12 only includes the sampling for surface water and sediments per regulatory agency approved Technical Memoranda number 2 for OU 12. The sampling was completed to cover the requirements of all the IA OUs. Technical Memoranda number 1 of OU 12 is the non-intrusive data summary and was completed in January 1995. Because of budget cutbacks in the IA OU for FY96 the generation of a data summary report for OU 12 surface water and sediment sampling shall not be required.
- + OU 9 data summary report is being completed under contract number MTS225450001SG/TB3. The scope is referred to in this SOW for references purposes only.

Within this SOW, the non-intrusive field activities will also be referred to as the Industrial Area Operable Units (IA OUs), Integrated Operable Units or Integrated OUs interchangeably with Operable Unit Nos. 8, 9, 10, 12, 13 and 14. Non-intrusive activities include but are not limited to radiation surveys, vertical profile sampling, data compilation, technical memoranda, surface soil sampling, and soil gas surveys.

2.0 SCOPE

The overall tasks for project conclusion for the IA OUs include compilation and transmittal of results from surface soil, surface water, sludge, sediment, soil borings, radiological samples, and soil gas records to the Record Center in accordance with procedure 2-G18-ER-ADM-17.01, Records Capture and Transmittal; and return of government furnished equipment and inventory. OU project-specific tasks shall include completion of ongoing fieldwork and completion of the Data Summary Reports.

2.1 OVERALL PROJECT TASKS

This section presents information regarding the records transfer requirements for the IA OU projects. The subcontractor shall be required to transfer all field data records to the contractor's Environmental Restoration Records Center. The time to complete this effort is included are part of the Data Summary deliverable dates noted in Section 1.0. The general project support category will remain to support all the IA OUs during the closeout period for the final deliverables of the Data Summary Reports.

Additionally, the subcontractor shall be responsible for the inventory and transfer of all government property purchased that was utilized to support this contract. This includes inventory and transfer of government furnished equipment that was also used during the project. The contractual closeout of the project will include the subcontractor's release and assignment of refunds, rebates, and credits.

2.1.1 General Project Support

Weekly project meetings, project sampling reports, monthly budget status reports, and other contract/administrative activities for the overall project fall under the category of general project support for each IA OU. General project support will be maintained until the Contract Technical Representative (CTR) officially closes out the project and has confirm the receipt of all project deliverable.

2.1.2 Records Transmittal

The overall project tasks include transmittal of the office- and field-generated records to the Environmental Restoration Program Division Records Center. This includes reports, letters, raw data, copies of logbook pages, field laboratory documents including chromatograms from soil gas analysis, and other laboratory data. The following presents a discussion of some of the types of documents that are transmitted both from the field and the office.

2.1.2.1 Field Records

Records transmitted from the field activities include the following:

- field forms (sample collection, pre-activity);
- chain-of-custody;
- calibration logs;
- health and safety documentation;
- equipment maintenance;
- permits (soil disturbance, pre-evolution, briefing, burn [for drilling]);
- drilling forms; and
- logbooks.

Records are broken down by group for submittal to the Records Center, such as the following:

- IHSS, sample location;
- type of form, if not sample location-specific (e.g., calibration, permits); and
- per day, if applicable.

Before records transfer, the following shall be completed for each record transmittal:

- Paginate each page.
- Stamp pagination or hand write as "page __ of __."
- Check for proper initials/corrections.
- Check contents, sample numbers, dates, correct equipment used, calibration, volume, and completeness.
- Correlate between multiple records, as applicable.
- Check entry verification.

The following are some of the types of data and media affected by the records transfer:

- | | |
|------------------------------|--------------------------|
| • soil gas; | • borehole (OU 9); |
| • surface water; | • hydropunch; |
| • sediment; | • sodium iodide surveys; |
| • global positioning system; | • asphalt; |
| • vertical soil profile; | • tank sampling; and |
| • surface soil; | • core logs. |

The following are some of the data required to be transmitted for procurement closeout:

- inventory updates transferred;
- list of rental property returned;
- list of items transported for disposition; and
- quality control checks of documentation.

2.1.2.2 Office Records

The type of records transmitted to the Records Center from the office include monthly status reports, weekly project reports, monthly accrual reports, invoices, contract/schedule performance reports, technical reports, and other miscellaneous letters. On average the transmittal of these documents represents between 500 and 1,000 pages monthly, depending on the size of the technical reports. The subcontractor has consistently in the past delivered these types of reports to the Records Center on a monthly basis. For the most part there should a minimum of records transmittals for this category.

3.0 BACKGROUND/APPLICABLE DOCUMENTS

3.1 BACKGROUND

The investigations and report deliverables described in this Statement of Work (SOW) are in response to the Rocky Flats Interagency Agreement (IAG) dated January 22, 1991 and are pursuant to the DOE Environmental Restoration (ER) Program (formerly known as The Comprehensive Environmental Assessment and Response Program [CEARP]), a Compliance Agreement between DOE, EPA and CDH dated July 31, 1986, and the Federal Facility Agreement and Consent Order.

The direction and scheduling of the Work Plans for this project originates from the IAG. The approved final versions of the Phase I RFI/RI Work Plans for OUs 8, 9, 10, 12, 13 and 14 incorporate all EPA, CDH, DOE, and contractor approvals.

3.2 APPLICABLE DOCUMENTS

This section of SOW contains an overview of documents relevant for implementation of the non-intrusive field work for the IA OUs. These documents are not included as part of this SOW. All the applicable documents can be inspected at the contractor's Environmental library, however the documents are for reference purposes only and cannot be checked out. The use of the Environmental library facilities by the subcontractor shall require a two day advance notice request to be made to the CTR. Verbal requests are acceptable. Use of the library shall be limited to project specific documents e.g. OU Work Plans, Health and Safety Plans, etc., the subcontractor is expected to be familiar with standard guidance documents e.g. EPA and state regulations. The subcontractor shall obtain written CTR approval prior to copying documents.

The subcontractor shall utilize applicable regulatory and guidance documents to implement activities of the Phase I RFI/RI Work Plans for OUs 8, 9, 10, 12, 13 and 14. At a minimum all activities shall be consistent with the IAG. The list of potentially applicable regulatory and guidance documents provided below is presented for general guidance and may not be all inclusive.

EG&G, Rocky Flats, Rocky Flats Plant, Environmental Monitoring and Assessment Division, Standard Operating Procedures, Volumes I - IV, February, 1991

Rocky Flats Interagency Agreement, January 22, 1991

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan 700 Area (Operable Unit No. 8), December, 1992

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan Original Process Waste Lines (OPWL) (Operable Unit No. 9), November, 1991

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan Other Outside Closures (Operable Unit No. 10), May, 1992

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan 400/800 Area (Operable Unit No. 12), October, 1992

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan 100 Area (Operable Unit No. 13), October, 1992

US Department of Energy, Rocky Flats Plant, Final Phase I RFI/RI Work Plan Radioactive Sites (Operable Unit No. 14), October, 1992

US EPA, Interim Final RCRA Facility Investigation (RFI) Guidance, EPA 530-89-031, May 1989

US EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, EPA 540 G-89-004, October 1988

US EPA, Data Quality Objectives for Remedial Response Activities, Developmental Process, March 1987

US EPA, Data Quality Objectives for Remedial Response Activities, Example Scenario, March 1987

US EPA, Guidance for Data Usability in Risk Assessment, October 1990

US EPA, Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, (Part A), Interim final, EPA 540/1-89/002, December 1989

US EPA, Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual, Interim Final, EPA/540/1-89/001, March 1989

US EPA, Ecological Assessments of Hazardous Waste Sites: A Field and Laboratory Reference, EPA/600/3-89/013, March 1989

US EPA, RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1, September 1986

Code of Federal Regulations, Title 40, Part 265 - Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, July 1990

Code of Federal Regulations, Title 43, Part 11 - Natural Resource Damage Assessments, October 1987 (or latest edition)

Guideline for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, 1988a)

4.0 TECHNICAL REQUIREMENTS/TASKS

The subcontractor shall provide all materials, personnel and services required to implement the scope of work described above is Section 4.0 for the IA OUs as stated in this SOW. The Work shall be performed in such a manner as to ensure that the data specified during implementation of the non-intrusive activities of the Phase I RFI/RI Work Plans for the IA OUs was collected and reported in the Data Summary Reports. The subcontractor shall complete the Data Summary Reports based on customary and specified scientific methods and shall be of sufficient and of adequate quality to meet the objectives of the Final Phase I RFI/RI Report for the IA OUs. All direction, guidance and comments pertaining to this project shall be adhered to during implementation of the work plan. The data generated will be evaluated for acceptance by the contractor and will be the basis of further decisions. Specific guidance pertaining to this project shall be provided by the CTR and shall be followed by the subcontractor during implementation of this SOW.

To logically close out the non-intrusive portion of the IA OUs, a Data Summary Report will need to be prepared that will effectively document the data collected to date. The Data Summary Report will contain the following, however, based on the individual OU technical requirements not all section are applicable. The subcontractor shall have the discretion to recommend to the CTR which sections can and cannot be completed. The final determination of the contents of the Data Summary Report will reside with the contractor.

NOTE: Technical Memoranda are sometimes mentioned within this SOW. TMs exceed the requirements for Data Summary Reports as described in this SOW. The TMs that are referenced were

completed prior to the issuance of the Stop Work Order in May 1995 therefore they are held to the more formal requirement of the Phase I RFI/RI Work Plans. No TMs shall be developed within the scope of this SOW unless specifically exempted.

4.1 DATA SUMMARY REPORT FORMAT

- **Introduction** - The Introduction includes the background, history and summary of previous work.
- **Methods of Investigation** - This section includes the methods used to collect the data and provides figures illustrating the sample locations. Data collection includes visual surveys, in situ radiological surveys (high purity germanium [HPGe] and sodium iodide), vertical profile sampling, asphalt/concrete sampling, surface soil sampling, sediment and surface water sampling, soil gas surveys, and foundation drain and sediment sampling.
- **Data Summary** - The Data Summary provides tables of the results of the laboratory analyses and figures illustrating the results of the analyses.
- **Statistical Assessment of Surface Soil Data** - This section statistically assesses each IHSS to ensure that a sufficient number of samples were collected for a thorough characterization in accordance with the Phase I RFI/RI Work Plan Data Quality Objectives. This task provides the basis to document what was proposed to be completed per the Phase I RFI/RI Work Plans and what was actually completed during the field investigation. For example, it was quite common in the IA that sampling points that were planned to be taken could not be because of conflicts with utilities.
- **References** - This includes reference to the operating procedures (OPs) followed, and any other references used to tabulate the data.
- **Appendices** - These include the data collected.

4.2 OPERABLE UNIT 8 - 700 AREA

To prepare the Data Summary Report for Operable Unit 8, the analytical data from the laboratory must be received by Rocky Flats Environmental Data System (RFEDS) and 20 percent of that data must be validated. As of April 21, 1995, the following had been accomplished:

- Ninety-five percent of the organic analytical data have been received by RFEDS, and 22 percent are validated.
- One hundred percent of the metal analytical data have been received by RFEDS, and 92 percent are validated.
- Ninety-seven percent of the radiological data have been received by RFEDS, none of which have been validated.
- Zero percent of the vertical soil profile data have been received by RFEDS. These data will not be validated because they are being used to compare in situ and laboratory radiological methods.

Based on experience with analytical data for OUs 10, 12, and 13, it takes approximately 45 calendar days to receive non-radiological laboratory analysis, 65 calendar days to receive radiological laboratory analysis, and 45 calendar days for data validation. Therefore, based on these assumptions, the OU 8 Data Summary effort is expected to begin on June 13, 1995, and be completed on September 13, 1995. To determine data adequacy and completeness, an internal review will be conducted, however preparation of another draft of the document shall not be required. Reviewers comments will be achieved

and kept with the initial draft Data Summary Report. No comment review sessions nor formal responses shall required of the subcontractor.

The Environmental Evaluation (EE) task that was scheduled to be performed under OU 8 in FY95 for the entire IA will not be initiated. Though this task is a time-dependant activity (i.e. spring and fall sampling events), many changes have been made programmatically to the requirements for EEs since development of the original technical scope. Thus, the performance of this task would require a re-negotiation effort with the regulators in order to identify new data requirements versus the original objectives outlined in the EE plan developed and approved in 1992. The subcontract shall not be required to report on any status of the EE in the Data Summary Reports.

4.3 OPERABLE UNIT 9 - INTRUSIVE TANK CHARACTERIZATION AND SUBSURFACE BOREHOLE INVESTIGATION

NOTE: Scope described in this section is covered under contract MTS225450001SG/TB3. The information provided herein for OU 9 is provided only to provide clarity and integration of the work completed within the Industrial Area as a whole. The subcontractor shall not be required to implement nor utilize the following information in any work relating directly in support of this SOW.

The ongoing field investigations for OU 9 include the characterization of subsurface conditions for the outside tanks, tank residue sampling and tank inspections. To date, 15 out of 23 groundwater samples, 11 out of 15 tank residue samples, 11 out of 14 surface soil samples have been collected and 95 out of 115 boreholes have been completed. These field activities are expected to be completed by the last week of May 1995. A Data Summary Report will be prepared that will document the collection of the data. This effort is expected to begin as soon as the tank characterization and subsurface borehole investigation field activities have been completed, including follow-up sodium iodide surveys to verify HPGe anomalies identified around the OU 9 outside tanks. The first data collected for OU 9 were submitted to the contract laboratories the last week of February 1995. Therefore, OU 9 data should begin to be received and RFETS validated by the first week of June 1995, with the additional validated tank data continuing to be received through August 1995.

Because both the tank characterization/inspection and borehole findings have been significantly different from what the historical RFETS information initially indicated for the OU 9 Work Plan development, a critical section of the Data Summary Report needs to reconcile previous information and actual tank and surrounding soil condition information. Individual contaminant volumes, concentrations, and tank release potential will need to be included.

The Draft Data Summary Report will be complete on October 20, 1995 (Figure 1). In order to determine data adequacy and completeness, an internal review will be conducted, however preparation of another draft of the document shall not be required. Reviewers comments will be archived and kept with the initial draft Data Summary Report. No comment review sessions nor formal responses shall required of the subcontractor.

4.4 OPERABLE UNIT 10 - OTHER OUTSIDE CLOSURES

This OU was the first completed for the IA OUs. A second draft of Technical Memoranda (TM) No.1 was submitted to EG&G on January 16, 1995, and delivered to the U.S. Department of Energy (DOE) and the regulatory agencies. This draft incorporated comments from EG&G and DOE. No further activity is anticipated on this OU. Data have been adequately documented for effective transition to meet the data requirement within this SOW.

4.5 OPERABLE UNIT 12 - 400/800 AREA

4.5.1 Revise Existing Technical Memorandum

The first draft of TM No.2 was delivered to EG&G on February 24, 1995. This draft has some errors resulting from several data management problems. This needs to be corrected and comments incorporated into the document. Because of schedule constraints, the current document also did not include 10 percent of the laboratory analytical data. The draft final version of TM No. 2 is expected August 30, 1995; this version will have the data errors corrected and the remaining 10 percent of the data (asphalt and concrete sampling data and high purity germanium radiological survey data) included, and will not require revisiting any data interpretation and recommendations.

4.5.2 Data Summary Report for Surface Water and Sediment Sampling

NOTE: Because of budget rescissions in FY95 and budget cutbacks in the IA OUs for FY96 the generation of a data summary report for OU 12 surface water and sediment sampling shall not be required. The following paragraph is provided only for informational purposes to the subcontractor as to what was originally planned for the completion of OU 12.

In addition, this OU has the additional task of funding the IA-wide surface water and sediment sampling program. As part of this IA-wide program, three time-dependent sampling events are required. The first was completed before an IA ditch-cleaning effort, the second during the wet season, and the third during the dry season. These sampling events relate to the time-dependent sampling allowed under the Stop Work Order dated March 7, 1995. To date, the first sampling event has been completed and the second event is ongoing (Figure 1). The final dry season event is scheduled for September 1995. Field records from these sampling events will need to be transferred to the Records Center. Additionally, a Field Data Summary Report will be prepared to adequately document the data collection activities and the sampling conditions for appropriate transition to the new IA reconfiguration. This Data Summary Report will be a reduced effort in comparison to the other OUs summaries for non-intrusive work. The report will only include the Methods of Investigation and Data Summary sections as described for OU 8 under section 2.2. Additionally, the Data Summary Report will be initiated prior to receiving full data validation, thus the report is anticipated to be completed by March 19, 1996.

4.6 OPERABLE UNIT 13 - 100 AREA

This OU was in the process of completing the non-intrusive TM when the stop work order was received. The data will now be reported in a Data Summary Report but will contain the recommendations section since most of the work had already been completed. The first draft Data Summary Report is anticipated to be complete on June 16, 1995. Internal review and revision of the document based on data adequacy and completeness criteria is planned to be finished by July 10, 1995. Preparation of another draft of the document shall not be required. Reviewers comments will be archived and kept with the initial draft Data Summary Report. No comment review sessions nor formal responses shall be required of the subcontractor.

The data have been received and data validation is complete for this OU except for the asphalt data. Approximately 60 percent of the asphalt data are outstanding, and none of them are validated. Once this data is available, it will be compiled into a form to be included in the Data Summary Report.

4.7 OPERABLE UNIT 14 - RADIOACTIVE SITES

To prepare the Data Summary Report, the analytical data from the laboratory must be received by RFEDS and 20 percent of the data must be validated. As of April 5, 1995, 100 percent of the organic, pesticide/herbicide, metal, and radiological laboratory analytical data have been received by RFEDS; As of April 5, 1995, the following had been accomplished:

- Sixty-one percent of the volatile organic data are validated.
- Fifteen percent of the semivolatile organic data are validated.
- Zero percent of the herbicide/pesticide data are validated.
- One hundred percent of the metal data are validated.
- Twenty-four percent of the radiological data are validated.

The OU 14 Data Summary effort began on March 17, 1995 and will be complete by June 23, 1995. Internal reviews will be performed to determine data adequacy and completeness, however, preparation of another draft of the document shall not be required. Reviewers comments will be archived and kept with the initial draft Data Summary Report. No comment review sessions nor formal responses shall be required of the subcontractor.

5.0 DELIVERABLES AND SCHEDULES

5.1 Reports/Data Requirements

The subcontractor shall provide to the CTR the Data Summary Reports as described in Section 4.0 of this SOW. Each Data Summary Report is due on or before the milestone dates listed on the table in Section 1.0. During development of the Data Summary Reports the subcontractor shall maintain the following routine reports:

- Monthly Project Reports - This report shall detail field activities for the prior week and status schedule progress for the period. Monthly summary updates are required by the fifth working day of the month detailing the previous month's activities. Any deviations to the schedule shall be reported in this submission;
- Responsiveness Summaries - responses to CDH, EPA, and DOE comments shall be prepared and submitted within 15 working days of receipt of the comments provided by the CTR;
- All original Field Notebooks and field notes - 45 working days after completion of field work;
- Additional copies of reports shall be provided within 10 working days of request;

5.2 Budget Status Reports

Budget Status Reports shall be completed monthly by the subcontractor and submitted to the CTR by the 20th day of each month with the Monthly Task Order Status Reports for the current month's activity. The report will be based on a current monthly accrual consisting of a combination of actual costs incurred plus the costs anticipated through the end of each current month. This report shall include earned value statements that will detail the following:

- Budgeted Cost of Work Performed for the period (BCWP);
- Actual Cost of Work Performed for the period (ACWP);
- Budgeted Cost of Work Scheduled for the period (BCWS); and
- Cumulative costs to date for the above items.

Variance values shall be calculated for the above values comparing actual costs versus budgeted costs and work scheduled (BCWS) versus work performed (BCWP). Values are calculated as $((BCWP - ACWP) \times 100) / BCWP$ and $((BCWP - BCWS) \times 100) / BCWS$. If these variances exceed +/- 10% for a cumulative value or +/- 20% for a monthly value, the budget status report shall detail the reasons for the variance and the corrective action to be implemented. The variance reports shall include the

current monthly variance report as well as a cumulative variance report. All calculations shall be completed and reported for the current month and for the year. Budgeted costs for work shall be based upon the Work Plan Implementation Plan Milestone and activity schedule.

6.0 INVOICING REQUIREMENTS

Charges shall be accrued according to the developed Work Breakdown Structure (WBS). Charges shall be billed by OU for cost keeping purposes. General tasks (i.e. Implementation Plan) shall have charges proportionally divided amongst each of the IA OUs.

7.0 QUALITY ASSURANCE REQUIREMENTS

Work performed under this Statement of Work (SOW) is governed by the Rocky Flats Environmental Technology Site (Site), Environmental Restoration Program Division (ERPD) Quality Assurance Project Plan (QAPjP) and the Quality Assurance Program Description (QAPD). The Subcontractor shall perform all work in accordance with the Site Quality Assurance program requirements. All work shall be performed under the cognizance of the responsible Site organization and in accordance with approved Site implementing procedures, or supplier procedures which have been approved by the responsible Site organization prior to the start of any work.

The Subcontractor shall comply with the following specific Quality Assurance (QA) requirements prior to the initiation of work, as appropriate.

- 7.1 Organization** - The authority and responsibilities of persons or organizations performing work under this SOW shall be established, documented and submitted to the Site Contract Technical Representative (CTR). An organization chart identifying specific individuals by name, supported by itemized authorities and responsibilities is a suitable means of documentation.
- 7.2 Personnel Qualification** - Personnel performing technical work shall receive training and indoctrination in accordance with 3-21000-ADM-2.02, Personnel Qualification, to applicable procedures to assure proper understanding of the QA and technical requirements of this SOW before beginning work. In addition, written personnel qualification requirements shall be established for all positions performing technical work and provided to the CTR.
- 7.3 Training** - Documented evidence of personnel training, training material content, shall be maintained and made available to the CTR. The Site will provide training for Quality Assurance and technical procedures furnished by the Site. All Subcontractor personnel shall attend additional required job -specific and plantsite -specific training applicable to their job responsibilities. A list of Subcontractor personnel names, titles and current training shall be provided to the CTR.
- 7.4 Design and Control of Scientific Investigations and Engineered Processes** - All processes shall be performed to Site ERPD approved and controlled procedures or work plans except where excluded in writing by the Contractor. Examples of scientific/engineering processes include calculations, technical design, physical sampling handling/shipping/storage, waste management, experiments, tests, chemical, radiological, and biological analyses, environmental remediation, and data analysis (e.g., software). All calculations, designs, etc., become the property of the Site ERPD.

- 7.5 **Instructions, Procedures, and Drawings** - All work shall be performed to the Site ERPD approved and controlled procedures except where excluded in writing by the Site. Any procedures prepared shall be done in accordance with guidelines specified by the CTR and submitted in hardcopy and electronic media.

During the preparation of the draft work plan, the Subcontractor shall prepare a Quality Assurance Addendum that shall be submitted as part of the final work plan.

Data quality objectives (DQOs) must be established before fielding of a project, within a suitable work-controlling document (such as a work plan). Accomplishment of data quality objectives must be addressed in the final report. Development and DQOs must follow Environmental Protection Agency (EPA) Guidance as defined in EPA QA/G-4 and EPA QA/G-9.

Documentation describing the process, and products resulting from the process (e.g., data and technical reports) must be established well enough for process reproduction (by independent peers). Peer reviews, as evidenced by the reviewer's authentication, shall be implemented by the Subcontractor on all quality records before submittal to the CTR to ensure adequate quality of the deliverables based on the scope of work. Deliverables shall not be considered acceptable without written approval by an appropriate Site, Environmental Restoration representative.

- 7.6 **Document Control** - The Subcontractor shall acknowledge receipt of and maintain Site plans and procedures in accordance with ERPD procedure number 3-1100-ER-ADM-06.01, Document Control.
- 7.7 **Control of Purchased Items and Services** - Items or services procured under this subcontract shall be performed in accordance with the requirements of the QAPjP.
- 7.8 **Identification and Control of Items** - When applicable, the Subcontractor shall prepare written procedures that ensure that only correct and accepted items are used or installed and that they are traceable through unique identifiers. The procedures shall be submitted to the Site to ensure approval.
- 7.9 **Inspection** - Quality affecting activities are subject to inspection by the Site in accordance with this subcontract.
- 7.10 **Control of Measuring and Test Equipment** - Activities in which personnel use measuring and test equipment shall be controlled in accordance with ERPD procedure number 3-21000-ADM-12.01, Control of Measuring and Test Equipment. Such devices shall be controlled, calibrated, and adjusted at predetermined intervals (established by the Subcontractor and approved by the Contractor) to maintain accuracy.
- 7.11 **Mapping Standards** - The activities related to the creation of maps shall follow the guidelines as identified in 2-N93-ER-ADM-06.04, Map Control Procedure.
- 7.12 **Handling, Storage, and Shipping** - Activities in which personnel handle, store, package, ship, or receive items which if damaged, lost, or deteriorated would be detrimental to the work performed by the Subcontractor or those activities in which personnel handle, store, package, or ship hazardous material shall be controlled by written procedures. The procedures shall be submitted to the CTR for approval.

- 7.13 **Control of Nonconforming Items** - Activities regarding the identification and disposition of nonconforming items shall be performed in accordance with ERPD procedure number 3-21000-ADM-15.01, Control of Nonconforming Items and Activities. The control of nonconforming items shall apply to all activities that involve the handling of items, including samples, data, raw materials, hardware, and software.
- 7.14 **Software Quality Assurance** - Development of software that:
- 1) controls major physical or programmatic systems with respect to quality control or health and safety, and
 - 2) is financed through this SOW shall be controlled in accordance with 2-G24-ER-ADM-19.01, "ER Program Division Software Management Plan."
- 7.15 **Accessibility and Records** - The Subcontractor's work place and working records shall be accessible during normal working hours for verification or audit by the Contractor or their representatives, during the performance of this contract. All records shall handled in accordance with 2-G18-ER-ADM-17.01, Records Capture and Transmittal. Each quality record generated shall become the property of the Site and shall be turned over to the Site records center with in 30 days of completion of the record except where excluded in writing by the Site Environmental Documentation Manager.
- 7.16 **Records Turnover** - All ERPD project documents, correspondence and electronic deliverables that have been executed, completed, approved and which furnish evidence of the quality and completeness of data (including raw data) and of activities affecting quality shall be considered Quality Records and are the property of the US DOE, the Site. Quality Records include but are not limited to the following:
- As-Built drawings
 - Chain-of-Custody forms
 - Data summary reports
 - Data validation
 - Field and laboratory calibration records
 - Field records
 - Logbooks
 - Survey reports
 - Work plans
 - Forms completed from Standard Operating Procedures
 - Training and qualification records
 - Health and Safety Plans
 - Permit compliance reports
 - Drawings
 - Concurrence reports
 - Maps
 - Photographs
 - Electronic Medias
 - Quality Assurance Addenda

The above stated listing (as a minimum) shall be treated as Quality Records and protected in 1 hour fire rated or equivalent cabinets while in-process. Within 30 days of completion, two copies of all Quality Records will be delivered to the CTR for authentication. The CTR will then submit to the ERPD Project File Center in accordance with 2-G18-ER-ADM-17.01, Records Capture and Transmittal, DOE Order 5700.6C Quality Assurance and RFP Plant Policy 2-17 Records Management Program.

8.0 CLEARANCE REQUIREMENTS

Execution of this SOW by a subcontractor requires access to certain classified information for completion of identification of information regarding process waste streams and historical documentation relating to these environmental investigations. Active "Q" clearances by the subcontractor shall be required.

The IA OUs have IHSSs that are located within the Protected Area (PA), which requires an active DOE clearance for individual access. Non-Q-cleared personnel must be escorted by a Q-cleared individual, who may be a subcontractor, and can only be responsible for escorting a maximum of three non-Q-cleared individuals. Escorts can also be provided by EG&G Rocky Flats with advance written notice, however consistent use of EG&G personnel as escorts cannot be provided. Vehicles entering and exiting the PA undergo extensive security searches, requiring that some support vehicles may need to be dedicated and remain in the PA for the duration of the project.

9.0 PERIOD OF PERFORMANCE

The period of performance began for this subcontract in August, 1993 and shall **expire** at the end of FY95 on **September 30, 1995**.

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